claim 8 to correct this typographical error. Appropriate reconsideration and withdrawal of this rejection is requested.

Claims 8, 12, 21 and 25 stand rejected as indefinite in regard of the terms "fine, continuous". Claims 21, 25, 29 and 34 stand rejected as indefinite in regard of the terms "so as to have no specific gap". Claims 40, 42, 44, 46, 48 and 50 stand rejected as indefinite in regard of the terms "no specific gap". Claims 39, 41, 43, 45, 47 and 49 stand rejected as indefinite in regard of the terms "which are not blurred".

Applicants respectfully submit that these terms would be understood by a person of ordinary skill in the art. Applicants further submit that the meaning of these terms was adequately explained in the first Declaration under 37 CFR §1.132. However, in order to bring this issue to a close, Applicants submit herewith a second Declaration under 37 CFR §1.132 to further explain these terms and to make clear that any person of ordinary skill in the art would easily understand these terms. Accordingly, Applicants respectfully request the Examiner to consider the Declaration under 37 CFR §1.132 submitted herewith, wherein one of the inventors, Mr. Uriu, explains these terms and shows that they would have been understood in the art at the time the parent application was filed.

Mr. Uriu explains that "fine" is understood to mean a thin, even pattern without irregularities such as zig-zagged edges or discontinuities in the pattern. As explained in both the first and second Declarations, a zig-zag or not-fine pattern results from printing a line with a pitch of 50 microns through a mesh with high pressure.

Mr. Uriu explains that "continuous" is understood to mean that the lines in the pattern are substantially free of discontinuities. As explained in both the first and second Declarations, a discontinuous pattern is caused by printing a line with a pitch of less than 50 microns thorough a mesh; the mesh fibers correspond to the resulting discontinuities.

Mr. Uriu explains that "no specific gap" means that the conductive pattern and the insulation layers are substantially in contact, and that "no specific gap" is distinguished from a specific gap, which is a gap of about 2-5 microns between the conductive pattern and the insulation layers, as shown in the evidence contained in the first Declaration.

Mr. Uriu explains that "blurred" means that the edges of the lines in a conductive pattern are not sharp (substantially perpendicular to the substrate) but spread out, away from the lines. "Not blurred" is thus distinguished from blurred, and "not blurred" is characterized by sharp, fine edges. As explained in the first Declaration, blurring is caused by build-up of conductive paste after repeated printing using the same mesh and emulsion.

With respect to the "no specific gap" feature, which the Examiner asserts is a negative limitation, Applicants respectfully refer the Examiner to MPEP 2173.05(I). MPEP 2173.05(I) states that negative limitations are not objectionable when the boundaries for which patent protection is sought are set forth definitely, albeit negatively, and that the claim thus complies with the requirements of 35 U.S.C. §112, second paragraph. As noted therein, "there is nothing inherently ambiguous or uncertain about a negative limitation." Applicants respectfully submit that there is nothing indefinite or ambiguous about the "no specific gap" feature. The explanations provided in the two Declarations, herein and in previous Replies to Office actions and, most importantly, in the disclosure in the specification, leaves no doubt as to the boundaries for which patent protection is sought, as described by this feature.

Applicants respectfully submit that the two Declarations and the foregoing remarks show that a person of ordinary skill in the art would easily understand the claim terms to which the Examiner has objected, and that there is no indefiniteness therein.

Applicants respectfully submit that the claims contain no terms which are indefinite under 35 U.S.C. §112, second paragraph. The claims particularly point out and distinctly claim the subject matter with the Applicants regard as their invention. Accordingly, Applicants respectfully request reconsideration and withdrawal of the indefiniteness rejections.

Rejection of Claims 8-15 and 21-50 Under 35 U.S.C. §103(a)

Claims 8-15 and 21-50 stand rejected as obvious over Zsamboky et al., U.S. Patent No. 5,716,713 in view of Oba et al., Japanese Laid-Open Publication No. 58-98906. Applicants traverse this rejection for at least the following reasons.

Claims 29-38 and 47-50:

With respect to claims 29-38 and 47-50, Applicants submit that Zsamboky et al. is not prior art to the subject matter of these claims. Applicants submit herewith a certified translation of the Japanese priority application, Japanese Patent Application No. 6-217150, filed 12 September 1994. The present application claims priority to U.S. application Serial No. 08/526,713, which claims priority to the above-noted Japanese application No. 6-217150. Thus, the original U.S. application is entitled to the priority date of 12 September 1994. Zsamboky et al. was filed on 16 December 1994, after the filing date of the Japanese priority application.

The present application is a continuation-in-part application, based on Serial No. 08/526,713. In the CIP application, Example 9 was added to the original U.S. application. Example 9 provides support for the numerical width and thickness features in claims 8-15, 21-28 and 39-45. Claims 29-38 and 47-50 do not include these features.

Claims 29-38 and 47-50 of the present application are fully supported in the Japanese priority application.

Claim 29 recites a lamination ceramic chip inductor, comprising at least one conductive pattern formed between at least one pair of insulation layers so as to have no specific gap between the at least one conductive pattern and the at least one pair of insulation layers, the at least one conductive pattern consisting of metal selected from the group consisting of Ag, Au, Pt, Pd, Cu, Ni and alloys thereof. The lamination ceramic chip inductor, comprising at least one conductive pattern formed between at least one pair of insulation layers is disclosed throughout the certified translation. The "no specific gap" feature is disclosed in the certified translation, for example, at page 25, paragraph [0081]. The group of metals is disclosed in the certified translation, for example, at page 44, paragraph [0166].

Claim 34 recites similar features, including that the conductive pattern is formed by electroforming process using a photoresist. Support for the "no specific gap" and group of metals is found as set forth above. Support for the electroforming and photoresist is found, for example, at pages 16-17, paragraphs [0043]-[0050].

Claims 30-33, 35-38 and 47-50 depend from claim 29 or claim 34.

Thus, the presently submitted certified translation of the priority document shows that the invention claimed in claims 29-38 and 47-50 was made prior to the filing date of the Zsamboky et al. reference. Thus, these claims cannot have been obvious over any combination of references including Zsamboky et al. Accordingly, the Examiner is respectfully requested to withdraw the rejection of claims 29-38 and 47-50 over the asserted combination of Zsamboky et al. and Oba et al. Since it is considered that the rejection of these claims is thus overcome, the asserted obviousness of claims 29-38 and 47-50 is not further considered herein.

Claims 8-15, 21-28 and 39-45:

With respect to claims 8-15, 21-28 and 39-45, these claims stand rejected as obvious over Zsamboky et al., U.S. Patent No. 5,716,713, in view of Oba et al., JP 58-98906. The Examiner asserted that Zsamboky et al. disclose a ceramic stacked planar transformer structure, including at least one ceramic layer 160 and at least one fine, continuous copper pattern 134 formed on the layer by an electroforming process. The Examiner asserted that Zsamboky et al. discloses the claimed process except for the specific thickness to width ratio. The Examiner cited Oba et al. for its disclosure of a coil pattern formed on a peripheral surface of a magnetic material 1 through an insulating layer 2 by an electroforming process, in which the coil pattern has the claimed width to thickness ratio. The Examiner asserted that it would have been obvious to use the conductive pattern of Oba et al. in Zsamboky et al., for the asserted purpose of facilitating fabrication. The Examiner asserted that the specific shape of the conductive patterns would have been an obvious design choice. Applicants respectfully traverse the rejection of claims 8-15, 21-28 and 39-45 over the asserted combination of references for at least the following reasons.

Applicants have discovered a method of overcoming the problem of reducing the width of a conductive pattern, which is required by the continual reduction in the feature size of such devices, while avoiding the problem of increased resistance due to the reduced width. The

solution discovered by the Applicants is to increase the thickness of the conductive pattern, and to accomplish this while maintaining a fine, continuous conductive pattern, by using an electrodeposition process to form the conductive pattern. While the Zsamboky et al. and Oba et al. references relate to similar devices, neither of these references provide the necessary suggestion or other motivation to select the features of Applicants' claimed invention in order to solve the problems faced by the Applicants. While the Examiner has found and cited disclosure of some of the elements of Applicants' claimed invention, the Examiner has not provided the motivation for making the asserted combination. The Examiner merely stated that the purpose of making the asserted combination is "facilitating fabrication". This assertion of motivation fails to rise to the level required in order to support and state a *prima facie* case of obviousness. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 8-15, 21-28 and 39-46 over the asserted combination of Zsamboky et al. and Oba et al.

Zsamboky et al. disclose a process for preparing an insulated metallized substrate, shown in Fig. 1. The structure obtained is shown, e.g., in Figs. 7-15, and includes a ceramic substrate 160 and a copper layer 134, such as referred to by the examiner. See, col. 13, lines 12-17.

As admitted by the Examiner, Zsamboky et al. fails to disclose or suggest Applicants' specifically claimed thickness to width ratio.

Although the Examiner asserted that Zsamboky et al. discloses a "fine, continuous" conductive pattern, the Examiner failed to support this assertion with any citation to the disclosure of Zsamboky et al. Applicants are unaware of any such disclosure in Zsamboky et al.

Oba et al. discloses a coil pattern 3 formed on the peripheral surface of a magnetic material 1 through an insulating layer 2 by a processing method such as photoetching or electroforming. The thickness of the pattern 3 is 5-10 μm; the width thereof are 10-20 μm; and the insulating space between the adjacent conductors are 10-25 μm. Oba et al. fails to disclose or suggest any advantage to the disclosed ranges of thickness and width, so there

would be no motivation for anyone to adopt such thickness and width, and particularly there is no suggestion that selection of any particular ratio of width to thickness might have any benefit or other significance. There is no disclosure to suggest that the Oba et al. method might be applicable to a ceramic substrate.

Oba discloses a thickness in the range from 5-10 μm. There is no suggestion to select a thickness in the high end of this range. The specification of the present application discloses thicknesses greater than 10 μm. Claims 8, 12, 21 and 25, and the claims dependent thereon, recite a thickness of 10 μm or greater, as well as the width to thickness ratio from 1 to less than 5. There is no suggestion in Oba et al. that a greater thickness could be obtained by the disclosed method. Applicants respectfully submit that the invention described in claims 8, 12, 21 and 25, and the claims dependent thereon, distinguish over the asserted combination of Zsamboky et al. and Oba et al.

Zsamboky et al. disclose electroless metal deposition on ceramic, while Oba et al. disclose the formation of a pattern on iron by electroforming. These are quite different processes and quite different substrates. There is no showing that a person of ordinary skill in the art would be motivated to seek a combination of these two disclosures to make the presently claimed invention recited in claims 8-15, 21-28 and 39-45.

There is no teaching or suggestion that an electroforming process to form a pattern on an iron substrate, as in Oba et al., would be achievable by the electroless deposition on ceramic process of Zsamboky et al., since the behavior of iron and ceramic, with respect to electroless and electroforming processes, are entirely different. Thus, simply because there are ranges of width and thickness disclosed in Oba et al., there is no reason why such dimensions would be sought for the electroless deposition on ceramic process of Zsamboky et al., and there is no suggestion in either reference to select specific ratios of width to thickness, as was discovered by the present Applicants.

Thus, at the time the invention was made, a person of ordinary skill in the art would not have been motivated to combine the electroless deposition on ceramic process of Zsamboky et al. and the electroforming on iron process of Oba et al., and so there would be nothing to

lead that person to make the presently disclosed and claimed invention described in claims 8-15, 21-28 and 39-45.

In addition, Applicants respectfully submit that the Examiner has failed to state a *prima facie* case of obviousness, since the Examiner failed to identify all the limitations of the claims in the prior art. Specifically, there is no teaching or suggestion, of which Applicants are aware, that a "fine, continuous" conductive pattern could or would be obtained by either of the cited references. Thus, the Examiner has failed to state a *prima facie* case of obviousness with respect to claims 8, 12, 21 and 25, for having failed to show al the limitations of these claims in the cited references. For this reason, Applicants request the Examiner to reconsider and withdraw the rejection of claims 8-15, 21-28 and 39-45 over the asserted combination of Zsamboky et al. and Oba et al.

For all of the foregoing reasons, Applicants respectfully submit that the presently pending claims patentably distinguish over the cited combination of references. The Examiner is respectfully requested to reconsider and withdraw the rejection of Applicants' claims as obvious over the prior art.

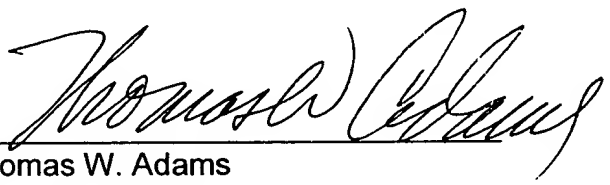
Conclusion

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance. Applicants submit that all indefiniteness issues have been addressed and overcome, and that all obviousness rejections should be withdrawn for the foregoing reasons.

In the event issues remain in the prosecution of this application, Applicants request that the Examiner telephone the undersigned attorney to expedite allowance of the application. Should a Petition for Extension of Time be necessary for the present Reply to the outstanding Office action to be timely filed (or if such a petition has been made and an additional extension is necessary) petition therefor is hereby made and, if any additional fees are required for the filing of this paper, the Commissioner is authorized to charge those fees to Deposit Account #18-0988, Docket No. YAMAP0347USB.

Respectfully submitted,
RENNER, OTTO, BOISSELLE & SKLAR, P.L.L.

Date: December 11, 2002

By 
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APPENDIX

Claim 8, as shown above, has been amended as follows:

8. (Three times Amended) A lamination ceramic chip inductor, comprising at least one fine, continuous conductive pattern, the at least one fine, continuous conductive pattern having a thickness of 10 μm or more and a width to thickness ratio from 1 to less than 5.